Salt Lake EMS District

STANDING ORDERS

Ver. 01/2008

These standing orders are derived from Treatment Protocols as specified under District Protocol No. 40.

This is a "limited standing order" system, which specifies measures that may be taken before contacting Medical Control.

The Protocols and Standing Orders are meant to provide guidelines for treatment for both EMS personnel and those providing on-line Medical Control. Some deviation from these Standing Orders may be appropriate when the situation dictates. Reasons for such deviation should be documented on the Medical Incident Reporting Form.

In those circumstances not specifically addressed, the EMS provider is expected to use good judgment and contact Medical Control as soon as is feasible.

Comments or suggestions are welcome, and should be directed to the Protocol Subcommittee of the Salt Lake EMS/Interhospital District Council.

PEDIATRICS

MEDICATIONS

Pediatric doses used in advanced life support and emergency care.

Albuterol
2.5 mg (0.5cc) in 3 cc solution if ≥ 1 yr. old
1.5 mg (0.3cc) in 3 cc solution if ≤ 1 yr. old

Activated Charcoal
1g/kg P.O. or NG

Atropine
0.02 mg/kg IV, IO or ET

Bicarbonate
1 mEq/kg IV, or IO

Diazepam
0.1 mg/kg IV, IO. Rectal dose of 0.5 mg/kg.

Diphenhydramine
1-2 mg/kg IM or IV up to 50 mg.

Epinephrine
IV /IO - 1:10,000, 0.01 mg/kg (0.1 cc/kg)
ET - 1:1:000, 0.1 mg/kg (0.1 cc/kg)
Repeat doses in cardiac arrest can be doubled (given every 3-5 min. during arrest)
SQ - 1:1:000, 0.01 mg/kg SQ (0.1 cc/kg)

Furosemide
1 mg/kg

Fentanyl
1 micogram/kg IV

Glucose
D25 2cc/kg IV for documented hypoglycemia

Lidocaine
IV IO or ET - Initial bolus 1 mg/kg, repeated doses at 0.5 mg/kg to a maximum of 3mg/kg

Midazolam

0.1mg/kg IV, IO maximum 5mg
0.2mg/kg Intranasal, IM, ET maximum 10mg

Morphine
0.1 mg/kg IV

Naloxone
0.1 mg/kg IV, ET or IO up to adult dose of 2.0 mg

Ondansetron
0.1 mg/kg (for children 40 kg or less, over 40 kg use adult dose) **SLOW** IV push.

Promethazine
0.5 mg/kg (dilute medication 9:1 as noted above). **DO NOT** exceed 12.5 mg total dose.

Defibrillation
Begin at 2 joules/kg
Increase up to 4 joules/kg
Pediatric patches/paddles for children < 1 year old or <10 kg

Synchronized Cardioversion
Start at 0.5-1.0 joules/kg
Increase up to 2 joules/kg

NORMAL PEDIATRIC VITAL SIGNS

Age	Weight /Kg	Heart Rate	Respirations	Blood Pressure
Newborn	03	100-160	30-60	50-70
1-6 weeks	04	100-160	30-60	70-95
6 months	07	90-120	25-40	80-100
1 year	10	90-120	20-30	80-100
3 years	15	80-120	20-30	80-100
6 years	20	70-100	18-25	80-110
10 years	30	60-90	16-22	90-120
12 years	40	60-90	15-20	105-135

(For all ages, consider SVT if the heart rate is over 220)

CARDIAC
CARDIAC EMERGENCIES/CHEST PAIN

a. **ABC's**
b. **100% oxygen**, assist ventilations if needed.
c. Obtain patient history.
    i. Patient's past medical history (Heart attack, cardiac, stroke)
    ii. The location and type of pain.
    iii. Does the pain radiate down the arms or to the jaw, abdomen, or back.
    iv. Severity of the pain. ("X" out of 10 scale may be helpful).
    v. Factors that aggravate or alleviate the pain.
d. Patient's general appearance, level of consciousness.
e. **Vital signs**.
f. Cardiac **monitor**, Pulse oximeter.
g. **IV** access.
h. If cardiac pain is suspected; **Aspirin** 160-320mg, **Nitroglycerin** 0.4 mg sublingual or metered spray - may be repeated twice at 5-minute intervals if not hypotensive (BP < 90 systolic).
i. Additional **Nitroglycerin**
j. **Morphine** 2-3 mg IV titrate to a maximum of 15 mg
k. **Contact Medical Control**.
l. Medical Control Options:
    i. Divert to closest hospital only if patient is unstable Priority 1 as defined in Protocol #1.

ii. A fluid bolus (500 ml in adults) if hypotension is caused by either **nitroglycerin or morphine**
iii. Alert receiving ED of high-risk patient

ASYSTOLE

a. Confirm cardiac arrest (unresponsive, pulseless, breathless, no evidence of trauma)
b. A full two minutes (5 cycles) of C.P.R. (one cycle of CPR: 30 compressions then 2 breaths) must be performed with minimal interruptions in chest compressions (Ventilate with **100% oxygen** **AVOID HYPERVENTILATION—8-10 BREATHS PER MINUTE**)
c. Cardiac **monitor** or paddle pick-up
   i. Asystole (confirmed in 2 leads. If suspect fine V-Fib, use V-F protocol)
   ii. Continue CPR immediately for 5 cycles
   iii. ***Check for EMS/DNR bracelet, DNR order, or signs of obvious death. Confirm with medical control as per Death Protocol and discontinue resuscitation.***
   iv. Intubate, **100% oxygen**, **IV/IO LR/NS** TKO, after airway is secured, give continuous chest compressions—check rhythm every 2 minutes
   v. **Epinephrine**, 1:10,000, 1.0 mg IV/IO (repeat every 3-5 minutes) or 1 dose of **vasopressin** 40 U IV/IO to replace the 1st or 2nd dose of **epinephrine**
   vi. Consider **Atropine**, 1.0 mg IV/IO (may repeat 1.0 mg IV/IO in 3-5 minutes, 0.04 mg/kg maximum)
   vii. **Contact Medical Control**
   viii. Transport to the closest hospital ***or terminate resuscitation as directed.***
   **** If converted to another rhythm use appropriate protocol***
d. Medical Control Options
   i. Terminate resuscitation if no spontaneous pulse restored with 30 minutes of ACLS measures, and no reversible cause suspected.
e. Notes of Concern
   i. Antecubital or external jugular veins are the peripheral veins of choice due to a more rapid access to the central circulation
   ii. Asystole is a common rhythm after defibrillation. Continue CPR for immediately for 5 cycles.
   iii. Before defibrillation of fine V-fib, be sure to check lead attachment, monitor switch, and paddle vs. lead II switch, to eliminate chance of artifact
   iv. Should IV access be unavailable, endotracheal medication administration routes should be used (epinephrine, atropine, at doses 2 times the IV dose ***diluted to 10ml in NS***.
   v. IO administration of medication should be considered in a patient in full arrest.
   vi. Consider: Hypovolemia, Hypoxia, Hydrogen (Acidosis), Hypo-or HyperKalemia, Hypoglycemia, Hypothermia,Toxins, Tamponade, Tension Pneumothorax, Thrombosis (coronary or pulmonary), Trauma

VENTRICULAR FIBRILLATION/PULSELESS VENTRICULAR TACHYCARDIA

a. Confirm Cardiac Arrest (unresponsive, pulseless, breathless, no evidence of trauma)
b. Witnessed Arrest: if EMS witnessed or less than 4 minutes estimated down time, go to c.iii.
c. Un-witnessed
   i. Check pulse, if absent, do paddle pick-up
   ii. Begin CPR (30 compressions to 2 breaths for 5 cycles (2 min.) Ventilate with **100% oxygen**—8-10 breaths per minute (DO NOT HYPERVENTILATE)
   iii. Presenting V-Fib or pulseless V-Tach
      a) **Defibrillate at 360J or biphasic 200J*** (or manufactures recommendation) (continue CPR while charging)
      b) After shock, resume CPR

c) If no conversion, CPR, intubate ***(confirm placement),*** **IV/IO LR/NS** TKO, ventilate with **100 % oxygen-8-10 breaths per minute**
d) **Epinephrine**, 1 mg IV/IO or ET repeat every 3-5 minutes during arrest--) or 1 dose of vasopressin 40 U IV/IO to replace the 1st or 2nd dose of epinephrine
e) **Defibrillate at 360J or biphasic 200J*** (or manufactures recommendation)
f) **Lidocaine** 1-1.5 mg/kg IV may repeat dose in 3-5 minutes @ .5-.75 mg/kg
g) **Defibrillate at 360J** or **biphasic 200J*** (or manufactures recommendation)
h) **Sodium Bicarbonate** 1mEq/kg IV (consider if down time is 10 or more minutes)
i) Repeat **Lidocaine**, continue defibrillation enroute
j) **Contact Medical Control**
k) Transport to the closest hospital or terminate resuscitation as directed.
If conversion to another rhythm use appropriate protocol

d. Medical Control Options
i. Terminate resuscitation if no spontaneous pulse restored with 30 minutes of ACLS measures.

e. Notes of Concern
i. Circulate medications for one minute prior to defibrillation. Flush with at least 10 cc of IV solution, and elevate the extremity.
ii. Antecubital or external jugular veins are the peripheral veins of choice in cardiac arrest.
iii. Early defibrillation is the most important factor in the successful resuscitation of cardiac arrest.
iv. If IV access is unavailable, the use of the endotracheal tube for medication route should be considered. Use only with Epinephrine, Atropine, and Lidocaine at 2 times the IV dose ***diluted to 10ml in NS.***
v. Begin a **Lidocaine** drip 2-4mg/minute following conversion.
vi. **Lidocaine** therapy is contraindicated in the following:
a) Bradycardia and heart blocks
b) Wide complex ***ventricular bradycardia***
c) **Lidocaine** may suppress a ventricular escape rhythm and induce Asystole.
d) Use 1/2 dose of **Lidocaine** for elderly, liver, and kidney patients
vii. It is important to note whether CPR was started and what time prior to ALS or BLS arrival
viii. IO administration of medication should be considered in a patient in full arrest.
ix. Pre-cordial thump-no recommendation can be made for or against its use by ACLS providers (Class Indeterminate)

PULSELESS ELECTRICAL ACTIVITY (PEA)

a. Confirm Cardiac Arrest (unresponsive, pulseless, breathless)
b. Begin CPR (30 compressions to 2 breaths for 5 cycles (2 min.) Ventilate with **100% oxygen**—8-10 breaths per minute (DO NOT HYPERVENTILATE)
c. Cardiac Monitor: PEA (any rhythm except ventricular Tachycardia without a palpable pulse)
d. Intubate, **IV/IO LR/NS** TKO
e. Look for underlying causes:
i. Hypovolemia
a) **Fluid challenge** 500cc, pediatric dose 20cc/kg
b) Second fluid challenge 500cc, pediatric dose 20cc/kg
ii. Hypoxia (**100% O_2** by ET)

iii. Hydrogen ion – acidosis (consider **sodium bicarbonate** 1 mEq/kg IV)
iv. Hyperkalemia (renal failure)
a) consider **sodium bicarbonate** 1mEq/kg
v. Hypoglycemia
vi. Hypokalemia
vii. Hypothermia (refer to hypothermia protocol, page 27)
viii. Tablets/toxins (drug OD, accidents)
ix. Tamponade, cardiac (**fluid challenge** as previously detailed)
x. Tension pneumothorax (**needle decompression**)
xi. Thrombosis, coronary
xii. Thrombosis, pulmonary (embolism) (**fluid challenge** as previously detailed)
xiii. Trauma

f. Drug therapy while considering causes
i. **Epinephrine 1:10,000** 1mg IV/IO push, ET (2-2.5 x dose in ET tube), repeat every 3-5 minutes
ii. Consider **Atropine 1mg** IV/ET/IO IF RATE IS SLOW FOR AGE, every 3-5 minutes, to maximum total dose of 0.04 mg/kg (that would be 3mg for a 70kg patient)

g. **Contact Medical Control**
h. Medical Control Options:
i. Transport to closest appropriate facility or terminate resuscitation if no spontaneous pulse after 30 minutes of ACLS measures
ii. Consider: Hypovolemia, Hypoxia, Hydrogen (Acidosis), Hypo-or HyperKalemia, Hypoglycemia, Hypothermia, Toxins, Tamponade, Tension Pneumothorax, Thrombosis (coronary or pulmonary), Trauma

STABLE / UNSTABLE<S> </S>TACHYCARDIA

a. Cardiac **Monitor**, analyze rhythm. Confirm tachycardia, rate > 150 (see notes of concern).
b. Check oxygen saturation on room air, consider applying oxygen supplementation if SaO_2 < 90%.
c. Establish IV LR or NS TKO
d. Evaluate patient stability
i. **Stable** (patient conscious and alert, systolic BP>90, no chest pain or pulmonary edema)
a) Valsalva maneuver.
b) **Contact Medical Control for possible Adenosine use**
c) If patient has history of PSVT and has responded to **Adenosine** in the past, consider **Adenosine** administration (see below).
d) If patient has no prior history of PSVT, **Adenosine** is contraindicated for field use. Atrial fibrillation, atrial flutter, multifocal atrial tachycardia, junctional tachycardia, ectopic atrial tachycardia, sinus tachycardia due to other medical conditions are examples of SVT not responding to adenosine.
e) Transport patient to hospital.
iii. **Unstable** (decreased consciousness, systolic BP<90, chest pain, or pulmonary edema and arrhythmia is the suspected cause.
a) If patient is conscious and alert, consider sedation.
i) Consider **Midazolam intranasal** (Only if patient is not in extremis or deteriorating): inspect nostrils for mucus, blood or other problems, which might inhibit absorption. Draw 0.2 mg/kg up to 10mg of 5mg/ml solution for delivery by atomizer device. Give ½ of volume in each nostril.
Pediatric kg. Weight estimation: 10 + (2 X Age in years)

ii) If no response to intranasal **Midazolam** in 5 minutes, give IV dose

iii) Intravenous: 0.1 mg/kg up to 5mg of 5mg/ml solution, inject slowly until patient calm, speech slightly slurred. Be prepared to support ventilation if needed.

b) Adult cardioversion

i) Synchronized Cardioversion at 100J or biphasic 75J*

ii) Contact Medical Control after 1st cardioversion attempt (adult or pediatric)

ii) Synchronized Cardioversion at 200J or biphasic 120J* (or manufactures recommendation)

iii) Synchronized Cardioversion at 300J or biphasic 150J* (or manufactures recommendation)

iv) Synchronized Cardioversion at 360J or biphasic 200J* (or manufactures recommendation)

c) Pediatric cardioversion

i) Synchronized cardioversion at 0.5-1 J/kg (double for 2nd and subsequent cardioversions)

When converted, use appropriate protocol.

e. **Adenosine** administration for suspected PSVT

i. Usual dosage: 6 mg IV bolus. If conversion unsuccessful, a 12 mg bolus may then be administered.

ii. Choose the most proximal IV site, preferable antecubital. Make sure there are at least two medication ports in line.

iii. Prepare prior to administering.

iv. One syringe with 6 mg or 12 mg **Adenosine**

v. One syringe with 20 cc **LR or NS**

vi. One paramedic will elevate the IV site above the heart and administer the **Adenosine** through the most proximal port. Immediately afterward, a second paramedic will administer 20cc **LR or NS** flush through the more distal port.

vii. Record the cardiac rhythm during conversion attempt(s).

f. Notes of concern:

i. Tachycardia may be compensatory in hypovolemis, shock, sepsis, etc. Consider non-cardiac causes of tachycardia that should not be treated as a primary arrhythmia.

SYMPTOMATIC BRADYCARDIA (patient not in arrest)

a. Assessment shows bradycardia (pulse less than 60 in adults, or less than age corrected minimum in children) AND..... SERIOUS signs or symptoms: chest pain, shortness of breath, decreased level-of-consciousness, hypotension, shock, or dyspnea with rales

b. **100% O^2**, **IV LR or NS TKO**, **monitor**. Correct hypoventilation and secure airway as needed. Supine position.

c. Apply transcutaneous pacer electrode patches.

d. **Initiate pacing**

i. Consider sedation in alert patients:

a) Consider **Midazolam** intranasal: inspect nostrils for mucus, blood or other problems, which might inhibit absorption. Draw 0.2 mg/kg up to 10mg of 5mg/ml solution for delivery by atomizer device. Give ½ of volume in each nostril.
Pediatric kg. Weight estimation: 10 + (2 X Age in years)

b) If no response to intranasal Midazolam in 5 minutes, give IV dose as below:

c) Intravenous: 0.1 mg/kg up to 5mg of 5mg/ml solution, inject slowly until patient calm, speech slightly slurred. Be prepared to support ventilation if needed.

ii. Set desired rate (usually 80 in adults), gradually increase output setting until capture achieved (confirmed by palpable peripheral pulse of 80).
iii. Pediatric pacing only if proper sized electrodes available.
iv. Request sedation as above if alert patient is uncomfortable after capture.

e. **Atropine** 0.5 mg (0.02 mg/kg pediatric: only after O^2 and ventilation corrected) only if pacing delayed. Contraindicated in high degree AV block and 3º degree block.
f. Asymptomatic patients may not require treatment. Cardiac monitor only
g. **Contact Medical Control**.
h. Transport to closest appropriate hospital
   i. Medical Control Options
   ii. Repeat atropine in 3-5 minutes

SHOCK

1. The Shock Syndrome is defined as inadequate tissue perfusion. Signs and symptoms in adults may include, but are not limited to:
   a. Pulse over 120 with a systolic BP less than 90 or narrowed pulse pressure less than 20
   b. Skin cold and clammy (may be absent in early septic shock)
   c. Mental status: confusion, restlessness, anxiety, and lethargy

2. Classification of Shock: Shock may be classified as either a rate, volume, or pump problem.
   a. Rate: Refer to bradycardia or tachycardia protocol.
   b. Volume:
      i. Maintain ABC's
      ii. Cardiac **Monitor**
      iii. Keep patient warm
      iv. Consider trendelenburg
      v. Two large bore **I.V**.'s, **fluid challenge**, may repeat as needed (500cc adult, 20cc/kg for pediatric, may repeat 3 times)
      vi. **Contact Medical Control**
      vii. Rapid transport to closest appropriate hospital
   c. Pump:
      i. Maintain ABC's
      ii. Cardiac **Monitor**
      iii. Keep patient warm
      iv. Two large bore **I.V**.'s, TKO
      v. Be prepared to intervene in the following ways
         a) **Fluid challenge**
         b) **Epinephrine**
      vi. **Contact Medical Control**
      vii. Rapid transport to closest appropriate hospital
   d. Medical Control Options:
      i. **Fluid challenge 500cc LR, or .9 NS IV (pediatric dose: 20cc/kg up to 500cc)**
      ii. **Epinephrine** 1:10,000 0.5-1.0mg IV, (ET 2 times IV dose) (pediatric dose: 0.01mg [0.1cc] IV/IO) (ET 10 times IV dose)
      iii. With severe hypotension use **Epinephrine** 1:1000 drip. Mix 2 mg in 1 liter of NS = 2 mcgs/ml, (0.001 – 0.1 mcg/kg/minute). Usual range 2 – 10 mcgs/minute (60-300 minidrops/min or 10 – 50 regular drops/min) titrated to raise the systolic blood pressure to 70 – 100 mm Hg.
   iii. **Needle aspiration** of tension pneumothorax if present in obstructive shock

POISONING/OVERDOSE/INGESTION

1. Assume any ingestion may be life threatening and requires treatment. Patients who have overdosed intentionally often lie about the ingestion.
2. Patients who have attempted suicide by overdose are not competent to refuse care for that overdose. They should be treated and transported, against their will if necessary. (Utah Code Annotated 62-A-12-232) Stable patients may be transported to the hospital of their choice.
3. Obtain a list of any substances allegedly ingested, including alcohol and time of Ingestion. When possible bring containers and prescription bottles to the hospital.
4. Control Airway/Ventilation/Oxygenation:
   a. Open and maintain airway.
   b. **100% 0^2** by mask, BVM, or BV-ETT.
   c. If gag intact but mental status altered, transport laying on side, with suction ready.
   d. If gag absent and mental status altered, intubate trachea to protect airway. (Exception: suspected narcotic overdose; may delay intubation pending response to Naloxone)
5. Monitor Circulation
6. Specific Antidotes/Treatment:
   a. **IV NS or LR**. If hypotensive, infuse wide open until response, 500 cc infused (Pediatric dose 20 cc/kg), or medical control orders given.
   b. Cardiac **monitor**, pulse oximeter if available.
   c. If mental status altered, follow altered mental status/coma standing orders (**$D_{50}W$**, **Naloxone**: intranasal, subQ, IM or IV).
   d. If tricyclic antidepressant overdose suspected, and cardiac monitor shows QRS > 0.12 sec or unstable arrhythmia, give **Sodium bicarbonate** 1 mEq/kg IV.
   e. In most ingestions, if patient alert and gag intact, **Charcoal** 50 grams (pediatric 1g/kg up to 50 g) by mouth.
7. **Contact Medical Control**
8. Medical Control Options:
   a. Endotracheal intubation in patients whose mental status and gag reflex are deteriorating.
   b. Closest facility if patient condition deteriorating.
   c. Treatment and transport suicidal patients against their will (Utah Code Ann. 62-A-12-232). Stable patients may be transported to the hospital of their choice.

ADULT RESPIRATORY DISTRESS:

Includes respiratory distress due to asthma, COPD, lung infections, pulmonary edema, pulmonary emboli, heart failure, hyperventilation or other causes. Since these conditions cannot be diagnosed in the pre-hospital environment, treatment is standard as below.

1. Evaluate breath sounds, mental status, skin color.
2. **Oxygen** by non-rebreather mask or nasal cannula as situation indicates (use mental status, skin color, and O_2 saturation to guide O_2 therapy).
3. Allow position of comfort.
4. SpO_2 monitor, cardiac **monitor**.
5. Assisted ventilation if needed by BVM or BV-ETT (use mental status, skin color, air movement, and O_2 saturation to assess need for assisted ventilation).
6. If history of asthma or COPD and wheezing give **Albuterol**, 2.5mg (0.5cc) in 3cc solution via SVN.
7. Establish an **IV line LR or NS TKO**.
8. In adults with rales in whom heart failure is suspected, and signs of volume overload (history of heart failure, hypertension, jugular venous distension, peripheral edema): administer Nitroglycerin 0.4 mg sublingual. Contraindicated if systolic < 100 mmHg.

9. **Contact Medical Control**
   Medical Control Options:
   a. Administer **Morphine Sulfate** on physician order for suspected heart failure. Titrate dose at 2-3mg and monitor blood pressure.
   b. **Nitroglycerin 0.4mg** sublingually or metered spray may be administered to create venous pooling in suspected heart failure. Determine how much, if any, the patient has already taken prior to administering additional nitroglycerin. Check blood pressure before administration. Contraindicated for systolic <100.
   c. **Albuterol 2.5mgs** (0.5cc) in 3cc solution via nebulizer running at 6 liters/minute.
   d. Consider **Epinephrine** 1:1000, 0.3-0.5mg subcutaneously or intramuscular (pediatric dose: 0.01mg/kg = 0.01cc/kg – move to Pediatric protocol).
   e. Intubation as indicated.
   f. Divert to closest hospital if deterioration anticipated.

PEDIATRIC RESPIRATORY DISTRESS

1. Recognize respiratory distress. Consider foreign body obstruction. Some of the following many be present:
   a. Stridor.
   b. Wheezing.
   c. "Barking" Cough.
   d. Nasal flaring.
   e. Retractions.
   f. Use of accessory muscles.
   g. Silent chest (i.e.; asthmatic patient without air movement or wheezing).
   h. Altered level of consciousness.
   i. Tachycardia or bradycardia (may indicate hypoxemia).
   j. Anxiety (may indicate hypoxemia).
2. Keep child calm! Agitating a child with epiglottitis or any partial airway obstruction may completely obstruct their airway.
   a. Keep patient in their most comfortable position (this may be sitting up).
   b. Patient may be calmer when sitting with parents.
   c. Avoid invasive procedures such as taking blood pressures, temperatures, or starting IV's. Insert nothing in mouth unless airway becomes obstructed.
3. Oxygenate.
   a. Give **100% O_2** directed at the face (may be better tolerated if parent holds).
   b. If available, use a pulse oximeter to monitor oxygenation of patient.
   c. Prepare for emergency airway support and intubation should respiratory failure occur.
   d. If the patient condition deteriorates, follow advanced life support guidelines.
4. Evaluate breath sounds. If wheezing administer **Albuterol** aerosol 2.5mg (0.5cc) in 3cc saline via nebulizer (< 1 year: 1.5mg {0.3cc} in 3cc saline).
5. Continually reassess ABC's and assess for foreign body history, reassess breath sounds.
6. Medical Options:
   a. **Albuterol** nebulization 2.5mg in 3ml of NS
   b. Subcutaneous or Intramuscular **Epinephrine** 1:1000, 0.01 mg/kg (0.01cc/kg). Not to be used in patients less than 3 mo.)
   c. Priority 1 to closest hospital.
7. **Contact Medical Control**
   a. Assist ventilation or intubation as needed. Needle cricothyrotomy may help if complete obstruction and unable to ventilate or intubate. Cricothyrotomy is difficult in children but is an option.

ANAPHYLAXIS

A systemic allergic reaction, which develops following a drug ingestion, insect bite or exposure to an allergen. Anaphylactic reactions are characterized by airway compromise, hypotension and/or facial swelling, severe itching and urticaria (hives). Abdominal cramps, nausea, vomiting and diarrhea are also common.

1. Obtain and maintain a patent airway, deliver **100% oxygen.**
2. Administer 0.3-0.5mg of 1:1000 **Epinephrine** <S> </S>subcutaneously or intramuscular (pediatric dose: 0.01mg/kg {0.01cc/kg}). This dose may be repeated in 15 to 20 minutes if necessary; or as directed by Medical Control.
3. Establish **IV** access, give **fluid challenge** of 20cc/kg up to 500cc **NS or LR** if hypotensive.
4. **Monitor** vital signs, cardiac rhythm, oxygen saturation, color, and level of consciousness.
5. Medical Options:
    a. Intubation or cricothyrotomy as needed if not already performed.
    b. Repeat **Epinephrine** 0.3-0.5mg (1:1000 solution) subcutaneously or intramuscular.
    c. **Diphenhydramine** 25-50mg IM or IV.
    d. With severe hypotension **Epinephrine** 1:10,000 0.5-1mg IV, or ET push. May be repeated every 5 min. if shock persists. (Pediatric dose: 0.01mg/kg {0.1cc/kg IV, IO, or ET}).
6. **Contact Medical Control.**
7. Medical Control Options
    a. With severe hypotension use **Epinephrine** 1:1000 drip. Mix 2 mg in 1 liter of NS = 2 mcgs/ml, (0.001 – 0.1 mcg/kg/minute). Usual range 2 – 10 mcgs/minute (60-300 minidrops/min or 10 – 50 regular drops/min) titrated to raise the systolic blood pressure to 70 – 100 mm Hg.

SEIZURES

Most seizures are generalized motor seizures lasting less than 1-2 minutes, and may be the result of noncompliance, alcohol or drug withdrawal, hypoglycemia, drug overdose, or many other disorders. Initial care is directed at preventing harm during the seizure, and then preventing or treating recurrent or persistent seizures.

1. **Treatment:**
    a. Protect the airway from aspiration. Turn patient on side and suction if necessary.
    b. Do not restrain, but provide protection during the tonic-clonic phase.
    c. Remove dangerous objects, pad over hard surfaces.
    d. Consider other causes and treat appropriately, i.e., hyperthermia or hypoglycemia
        i. Check glucose, if <60 give 25grams **Dextrose** (50cc of 50% solution) (Pediatric dose: 2cc/kg D_{25})
        ii. Check temperature in pediatric patients.
    e. Treatment: for active or recurrent seizures, status epilepticus (two or more seizures without regaining consciousness), or any seizure lasting over 5 minutes:
        i. Maintain airway
        ii. Administer **Oxygen**
        iii. **Midazolam** intranasal: inspect nostrils for mucus, blood or other problems, which might inhibit absorption. Draw 0.2 mg/kg up to 10mg of 5mg/ml solution for delivery by atomizer device. Give ½ of volume in each nostril.

iv. If no patient improvement in 5 minutes, give a second dose of **Midazolam** 0.2 mg/kg up to 10 mg I.N. or I.M. or .1 mg/kg I.V up to 5 mg I.V.
Pediatric kg. Weight estimation: 10 + (2 X Age in years)

v. Reassure patient in postictal phase. Transport patient on side to protect airway

vi. **Contact Medical Control**

vii. Medical Control Options:

a) If no response to initial doses of **Midazolam** after 5 minutes, administer subsequent IV or IM doses

i) Intravenous: 0.1 mg/kg up to 5mg of 5mg/ml solution, inject slowly until patient calm, speech slightly slurred. Be prepared to support ventilation if needed.

ii) Intramuscular: 0.2 mg/kg up to 10mg of 5mg/ml solution.

iii)

Patients with history of seizures who are compliant with their medications may be released if fully recovered (GCS=15) after single seizure if they do not wish treatment/transport. Contact on-line Medical Control (see protocol #4).

OBSTETRICAL EMERGENCIES

1. Vaginal bleeding (1st or 2nd trimester):
   a. History – should include information on last menstrual period, quantity of blood loss, trauma. Assume ectopic pregnancy may exist.
   b. If vital signs normal, obtain orthostatics.
   c. Place patient supine.
   d. Administer **oxygen**.
   e. Establish large bore **IV** of **NS or LR**; infuse wide open if orthostatic or history of significant blood loss.
   f. **Contact Medical Control**.
   g. Transport, if needed.
2. Vaginal bleeding (3rd trimester): All 3rd trimester bleeding should be considered an abruption or previa, with treatment aimed at minimizing shock and transporting quickly.
   a. Administer **oxygen**.
   b. Establish large bore **IV** and infuse **NS or LR**.
   c. **Contact Medical Control**
   d. Transport on left side.
3. Preeclampsia: Characterized by hypertension (blood pressure greater than 130/80) and/or edema, in 3rd trimester or postpartum.
   a. Position on left side and keep calm and quiet.
   b. Administer **oxygen**.
   c. Establish **IV** of **NS or LR** TKO.
   d. **Contact Medical Control**.
   e. Transport gently, without lights and siren.
4. Eclampsia: Seizures with hypertension (blood pressure greater than 130/80) and/or edema, in 3rd trimester or postpartum.
   a. Position on left side.
   b. Administer **oxygen**, assist ventilations as necessary.
   c. Establish **IV** of **NS or LR** TKO.
   d. **Midazolam** intranasal (if unable to start I.V) inspect nostrils for mucus, blood or other problems, which might inhibit absorption. Draw 0.2 mg/kg up to 10 mg of 5mg/ml solution for delivery by atomizer device. Give 1/2 volume in each nostril, or;
   e. **Midazolam** Intravenous: 0.1 mg/kg up to 5mg of 5mg/ml solution, infused slowly until patient calm, speech slightly slurred. Be prepared to support ventilation if needed, or:

f. **Midazolam** Intramuscular: 0.2mg/kg up to 10 mg of 5mg/ml solution, or:
g. **Contact Medical Control**
h. Transport to closest appropriate hospital.

5. Trauma in pregnancy:
   a. Treat mother as any other trauma patient with the following exceptions:
      i. In 3rd trimester position on left side after spinal immobilization is in place.
      ii. All pregnant trauma victims should be evaluated at a hospital, even if minor trauma.
      iii. In 3rd trimester traumatic arrest, continue resuscitative measures until patient arrives at hospital.
      iv. **Contact Medical Control**
      v. Transport to closest appropriate hospital.
6. Delivery (normal cephalic presentation):
   a. Obtain quick history.
   b. Determine if adequate time is available to transport (consider number of previous births, contraction frequency, ruptured amniotic sac, and/or if crowning has occurred).
   c. If not imminent:
      i. Place patient on left side.
      ii. Administer **oxygen**.
      iii. Establish **IV** of NS or LR TKO.
      iv. **Contact Medical Control**.
      v. Transport.
   d. If delivery is imminent, prepare to deliver on scene.
      i. Deliver child in controlled manner, checking for umbilical cord around neck, suctioning immediately at perineum, and keep infant warm.
      ii. Begin resuscitation of infant, if necessary (APGAR _ 7 at one minute).
      iii. **Contact Medical Control**
      iv. Transport and prepare for delivery of placenta enroute.
7. Delivery (abnormal presentation):
   a. Breech (buttocks first)
      i. If imminent, allow buttocks and trunk to deliver, supporting baby with arm and palm, and then allow head to deliver.
      ii. If head does not deliver, push vaginal wall away from baby's face.
      iii. **Contact Medical Control**
      iv. Transport to closest hospital.
   b. Limb presentation: DO NOT ATTEMPT DELIVERY.
      i. **Contract Medical Control**
      ii. Transport to closest hospital.
8. Prolapsed umbilical cord:
   a. Administer **oxygen**.
   b. Elevate mother's hips (knee-chest position or on pillows).
   c. Apply gentle pressure to baby's head without disturbing umbilical cord.
   d. **Contact Medical Control**
   e. Transport to closest hospital.

EYE INJURIES

1. Chemical:
   a. Attempt to remove contact lenses (if present).
   b. Immediately and continuously **flush** the eye(s) with water for a minimum of 20 minutes.
   c. **Contact Medical Control**.
2. Foreign Objects:
   a. **Immobilize** foreign object in place (do not attempt to remove).
   b. **Cover both eyes** to prevent movement.

c. **Contact Medical Control**
Transport patient with head elevated.

BURNS

1. A.B.C.s:
   a. Airway, Breathing:
      i. Look for evidence of inhalation injury: burns of the face, neck and upper torso, hoarseness, difficulty breathing, burns or singed hair around the mouth and nose, burns or soot in oropharynx, or history of confined space fire. These patients may require prophylactic intubation.
      ii. If ventilation is not sufficient assist ventilations or intubate. If unable to intubate due to soft tissue swelling perform cricothyrotomy.
      iii. If ventilation is sufficient: give **100% O_2** by mask. Be prepared to intubate if deterioration occurs.
   b. Circulation:
      i. Anticipate burn SHOCK in all large burns.
         a) **IV** indications: 2 large bore catheters on all but minor burns.
         b) Type: **NS or LR**
         c) Rate: Wide open until online Medical Control contacted or 20cc/kg is infused.
         d) Cardiac Monitor: treat dysrhythmias as per protocol.
         e) Mental Status Evaluation: any alteration in mental status should be presumed to be due to asphyxia by carbon monoxide, cyanide or other products of combustion. Treat with 100% O_2 by mask, BVM, or BV-ETT and immediate transport.
2. Treatment of Burns:
   a. Small burns: Second degree burns less than 20% body surface area in adults, or less than 10% in children.
      i. Cover with clean moist or dry dressing, IV optional.
   b. Large burns: Second degree burns greater than 20% body surface area in adults, or greater than 10% in children or elderly, or ANY third degree burn.
      i. Cover with clean, DRY sheet or dressing.
      ii. Do not apply ointment, ice or wet dressing.
      iii. Associated trauma: Treat as per protocol.
3. Choice of Facility:
   a. Indications of shock, unstable, inability to obtain adequate airway, or more than 30 minutes from Intermountain Burn Center: Transport to nearest facility or air transport to Intermountain Burn Center.
   b. Suspected Non-Accidental Trauma (N.A.T): Intermountain Burn Center.
   c. Minor uncomplicated burns – any facility (patient choice).
   d. All others: Intermountain Burn Center.
4. Medical Options:
   a. Intubate for airway protection if deterioration is anticipated.
   b. Continue aggressive IV therapy.
   c. Narcotics (**Fentanyl & Morphine**) titrated for pain if patient is otherwise stable.
      i. **Fentanyl** 25-200 micrograms I.V. titrate for pain control, (25-50 micrograms every 10-15 min. up to 200 micrograms.) (1 microgram/kg in children)
      ii. **Morphine** 2-15 mg I.V. titrate for pain control
5. **Contact Medical Control**

SUSPECTED STROKE

Stroke = a sudden change in brain function, due either to hemorrhage or vascular occlusion (ischemia). Treatment may be available: consider stroke a medical emergency. In addition to the usual History and Physical the following should be performed.

1. History:
   a. Duration of symptoms?
2. Exam:
   a. Stroke Scale
      i. Abnormal speech?
      ii. Facial droop on one side with attempted grimace?
      iii. Arm drifts down or drops on one side when asked to hold them out?
3. Glucometer:
   a. Blood glucose between 60 and 400?
4. Treatment:
   a. Supplemental **O_2**.
   b. Correct hypoglycemia (IV **Dextrose** 50 g.)
5. Triage:
   a. Use Selection of Initial Hospital/Patient Triage Protocol. Give patients with any positive stroke scale finding (a, b or c above) the option of transport to a Primary Stroke Center.
6. **Contact Medical Control**:
   a. Contact Primary Stroke Center if patient presents with any positive stroke scale finding (a, b or c above) and wants transport to a Primary Stroke Center.
7. Medical Control Options:
   a. Unstable patients to closest hospital as per selection of Initial Hospital/Patient Triage Protocol.
   b. Give stable patients with physical exam findings as above the option of transport to a Stroke Center.
   c. Do not transport patients to a Primary Stroke Center without their permission.
   d. Do not transport patients without signs as above to a Primary Stroke Center, unless that is their desired destination.

MAJOR TRAUMA: (RTS ≤ 10 or by EMT or Paramedic judgment)

Basic Philosophy:
Rapid transport to the appropriate receiving hospital, treatment enroute, and early notification of the base hospital are major pre-hospital contributions to trauma patient survival. **A maximum scene time of 10 minutes is desirable**.

1. Initial Assessment:
   a. Airway (including evaluation for and initiation of C-spine precutions).
      i. Suctioning/clearing of airway.
      ii. Oropharyngeal or Nasopharyngeal or Orotracheal route with Sellick maneuver and manual C-spine immobilization.
      iii. Cricothyrotomy if other methods are unsuccessful or contraindicated.
   b. Breathing:
      i. **Administer high flow oxygen** and assist ventilations as necessary (use Sellick maneuver).
      ii. **Evaluate for and decompress** tension pneumothorax if hypotensive or unable to ventilate.
      iii. **Evaluate for and appropriately dress** open or sucking chest wounds.
      iv. Evaluate for flail chest, **consider positive pressure ventilation** by BVM or BV-ETT.
   c. Circulation:
      i. Assess for signs of shock.
      ii. Control external hemorrhage.
      iii. Large bore **IV**'s enroute. TKO, unless bolus is ordered by on-line Medical Control.
   d. Disability:
      i. **Spinal Immobilization**.

ii. Rapid neurological exam (AVPU).
iii. Ongoing assessment.

2. **Contact Medical Control**
3. Medical Control Options:
   a. IV fluid bolus if tension pneumothorax or cardiac tamponade is suspected. Use fluids with caution in other hypotensive patients, as this may be harmful.
   b. Analgesics
      i. **Fentanyl** 25-200 micrograms I.V. titrate for pain control, (25-50 micrograms every 10-15 min. up to 200 micrograms.) (1 microgram/kg in children) or
      ii. **Morphine** 2-15 mg IV titrate for pain control
   c. Consider sedation

MINOR TRAUMA

Any trauma not meeting the major trauma definition. (Includes minor MVA's or ground level falls).

1. Assessment.
2. Immobilize/control bleeding/bandage/splint if needed.
3. Establish **I.V**. if indicated
4. Adult patients with isolated limb trauma only, consider analgesics.
   a. **Fentanyl** 25-200 micrograms I.V. titrate for pain control, (25-50 micrograms every 10-15 min. up to 200 micrograms.) (1 microgram/kg in children) or
   b. **Morphine** 2-15 mg I.V. titrate for pain control
   (Caution: respiratory depression, hypotension).
5. **Contact Medical Control**

Nausea / Vomiting

When the patient presents with active vomiting and/or profound nausea from illness, myocardial infarction, narcotic administration, or traumatic mechanisms, **Ondansetron** is the medication of choice. **Promethazine HCL** may be administered as a second line option.

1. Assess patient to determine airway patentcy and that **NO** aspiration has occurred.
2. O_2 by cannula PRN.
3. Ask patient if he/she has a long QT syndrome. If yes, don't administer antiemetics without consulting medical control.
4. Start IV and begin appropriate fluid bolus (500cc-adults, 20cc/kg-peds)

IF patient is hypotensive = B/P < 90 Systolic.
Carefully regulate fluid and monitor V/S in the presence of closed head injury.

5. Adults: Administer **Ondansetron** 4 mg undiluted **SLOW** IV push (preferably 2-5 minutes). Reevaluate patient and V/S.
6. Pediatric: Replace fluid volume in the dehydrated pediatric patient prior to medication administration. If vomiting or profound nausea continues, administer **Ondansetron** 0.1 mg/kg (for children 40 kg or less, over 40 kg use adult dose) **SLOW** IV push. Reevaluate patient and V/S.

Or

7. Adults: Administer **Promethazine** 12.5 mg (dilute medication 9:1 = 9.5cc NS to 0.5cc **Promethazine** in 10cc syringe). May substitute 25 mg **Promethazine** IM, non-diluted.

DO NOT USE PROMETHAZINE ON PATIENTS 12 Y/O OR YOUNGER WITHOUT ONLINE MEDICAL CONTROL

8. Pediatric: Administer **Promethazine** 0.5 mg/kg (dilute medication 9:1 as noted above). **DO NOT** exceed 12.5 mg total dose.

9. Use with caution in the presence of possible closed head injury. Vomiting can increase intracranial pressure (ICP) and may exacerbate hypotension. Carefully regulate fluid and closely monitor V/S.
10. Monitor patients receiving **Promethazine** closely for possible signs of extra-pyramidal effects of phenothiazines. If visual impairment, hallucinations or disorientation, marked erythema, or extreme sedation occur, be prepared to administer **Benadryl** 50 mgs IV-adult or 1-2mgs/kg-pediatric **AFTER** contacting Medical Control.
11. **Contact Medical Control**.
12. Medical Control Options:
    a. Diversion to closer facility.
    b. Order appropriate **Benadryl** dose in the presence of untoward or extra-pyramidal effects requiring intervention.
    c. Additional fluid volume replacement.
    d. Intubation as indicated.
        i. Pediatric use of **Promethazine** (12 y/o or less) **MUST BE** authorized by Medical Control.

CRUSH SYNDROME

Crush syndrome occurs when recirculation is established through a large muscle group after a period of compression of over 1 hour duration. Patients who have fallen and been unable to move, as well as patients pinned or entrapped by heavy objects for over 1 hour are at risk for developing crush syndrome when lifted from the floor or when freed from entrapment.
When the possibility of Crush Syndrome is suspected in ground level falls or entrapment:

1. Assessment.
2. Before lifting or freeing patient
    a. **Oxygen**
    b. Cardiac **monitor**
    c. **IV NS or LR, 1 L** (or 20ml/kg in children)
    d. **Sodium Bicarb** (**$NaHCO_3$**,) 1 mEq/kg IV push and add 50 mEq to each liter IV fluid
3. Push 1-3 additional doses **Sodium Bicarb** (**$NaHCO_3$**) if arrhythmias occur.
4. Additional **IV fluids** to maintain systolic BP >90
5. **Contract Medical Control**

HEAT AND COLD RELATED ILLNESSES

1. **Heat Related Illnesses**
    a. Heat Illness Suspected:
        i. Move to cool environment.
        ii. Remove clothing.
        iii. Sponge skin, cool oral fluids (if alert)
        iv. Check temperature.
    b. **IV**:
        i. Indications:
            a) Absence of sweating (heat stroke).
            b) Altered mental status (heat stroke).
            c) Hypotension.
            d) Unable to take fluids orally.
        ii. Type: **LR or NS**
        iii. Rate: wide open until medical control contact or total 500cc (10cc/kg) infused.
    c. **Contact Medical Control**
    d. Medical Control Options:
        i. More aggressive cooling measures for severe symptoms or prolonged transport. May include ice packs to groin, axillae, and neck.

ii. Closest facility if patient condition warrants.
iii. Release at scene if vital signs, mental status, and temperature normal.

2. **Cold Related Illnesses:**
   a. If frostbite suspected re-warm the patient.
      i. Remove to warm, dry environment.
      ii. Remove wet clothing.
      iii. Cover patient with blankets or warm, dry clothing.
   b. Medical Options:
      i. Active re-warming with warm water immersion or warm body parts if prolonged transport anticipated.
      ii. Check temperature when hypothermia suspected (some thermometers only to 94 degrees)
      iii. Warm the patient.
         a) Move to warm environment. Handle very gently: rough handling may cause ventricular fibrillation in severe hypothermia.
         b) Remove wet clothing. Cut away if patient unresponsive.
         c) Wrap the patient in warm dry clothing and blankets.
         d) If the patient is alert, warm oral fluids may be given: NO ALCOHOL!!!!!!!!
   c. **Contact Medical Control**
   d. If victim is UNRESPONSIVE:
      i. ABC (CAB in this case).
         a) Circulation: any pulse (check carotid pulse for 1 minute) or a rhythm which might perfuse (even extreme bradycardia) may be adequate for that degree of hypothermia. Use CPR only as follows.
         b) Cardiac monitor first in suspected severe hypothermia.
         c) CPR for v-fib or asystole on monitor. Once initiated, do not stop CPR.
         d) HOLD CPR for potentially perfusing rhythms on monitor, including sinus bradycardia, normal sinus rhythm, v-tach, etc., then **Contact Medical Control**.
      ii. Airway.
         a) Avoid intubation if able to ventilate with bag/mask.
      iii. Breathing.
         a) 100% O_2 by mask, BVM or BV-ETT tube.
         b) If necessary, ventilate at maximum 8-10 breaths per minute.
      iv. Medical Options:
         a) Intubation.
         b) **IV NS or LR,** warm fluids when available.
         c) ACLS drugs (if temperature > 30^{o} C)
         d) **IV Dextrose, Naloxone**, for altered CNS status.
         e) More aggressive heating measures to include heat application to axillae, groin, and neck.
         f) Transport to closer facility if transport time prolonged.

      Facility choice for severe hypothermia is a Level 1 Trauma Center as per Protocol #1.

COMA/ALTERED MENTAL STATUS:

1. Altered Mental Status is defined as GCS<15.
2. Treatment:
   a. Protect Airway: recovery position (if no trauma suspected), suction as needed, oral or nasal airway; intubate if no gag and no immediate response to medical therapy as below.

b. Protect Cervical Spine: If trauma suspected, cervical collar and manual immobilization.
c. Assist Respirations: If patient appears to be hypoventilating. (Use Sellick maneuver).
d. **100% O_2** by mask, BVM or BV-ETT. Nasal airway or nasal cannula at 10L/min may be better tolerated in more awake patients.
e. Cardiac **monitor**, pulse oximeter if available.
f. **Check blood glucose, if low start IV LR or NS** and administer **D_{50}**, 50cc IV bolus (pediatric dose D_{25} 2cc/kg IV). If IV unattainable give **Glucagon**, adult 1mg IM, pediatric <12 years 0.5mg IM in thigh, not appropriate for children under 3 months.
g. If no response or narcotic overdose suspected, **Naloxone**: Intranasal: inspect nostrils for mucus, blood or other problems which might inhibit absorption. Draw 2mg of 1mg/ml solution for delivery by atomizer device. Give ½ of volume in each nostril. Assist ventilation as needed. If no response in 5 minutes, start IV, administer 2mg of 1mg/ml Naloxone IV, IM, SubQ, or ET, continue assisted ventilation, intubate as needed. (may be given before **D_{50}** if overdose). (Pediatric dose: 0.1mg/kg Intranasal, IM, IV, IO, or ET).
h. **Contact Medical Control**. Patients with altered mental status may **not** be competent to refuse care. When in doubt, contact Medical Control.

3. Medical Control Options:
   a. Intubate patients with absent or poor gag reflex. Intubation may be delayed pending response to therapy. Intubation may be delayed if head injury suspected.
   b. Refusal of treatment/transport:
      i. Patients who respond to **Naloxone**, have head injury, or GCS<15 may not be competent to refuse care. Medical Control may ask for further assessment and authorize scene release or transport as appropriate.
      ii. Patients with certain conditions may be permitted by Medical Control to refuse care if they have fully recovered at scene: diabetics with insulin reactions responding to **D_{50}**, seizure patients with known breakthrough seizures despite compliance with therapy. (See Protocol #4).
      iii. Patients with altered mental status may be considered a danger to themselves by reason of inability to make reasonable and prudent decisions regarding their medical care. Law enforcement officials may be enlisted to help with restraint and transport.

CHEMICAL RESTRAINT

Note: Haloperidol or Midazolam are to be used for sedation only by order of online Medical Control. **Haloperidol** is not for use in pediatric, pregnant, or head injured patients.

1. **Indications:**
   a. Patient is extremely agitated, violent, and/or combative. Efforts to calm and control the patient verbally and with light physical restraint are unsuccessful and there is a danger of injury to the patient, EMS personnel or bystanders.
2. **Procedure**:
   a. After above attempts to calm and restrain the patient failed, **contact Online Medical Control.**
   b. Consider **Haloperidol** administration:
      i. Usual dosage: 5-10 mg IM or 2-5mg I.V.
      ii. Onset of action is 10 to 20 minutes IM or 5 to 10 minutes I.V.
      iii. Additional doses may be administered only after consultation with Online Medical Control.

c. Consider **Midazolam** intranasal: inspect nostrils for mucus, blood or other problems, which might inhibit absorption. Draw 0.2 mg/kg up to 10mg of 5mg/ml solution for delivery by atomizer device. Give ½ of volume in each nostril. Pediatric kg. Weight estimation: 10 + (2 X Age in years)
d. If no response to intranasal **Midazolam** in 5 minutes, administer IV or IM dose:
   i. Intramuscular: 0.2 mg/kg up to 10mg of 5mg/ml solution.
   ii. Intravenous: 0.1 mg/kg up to 5mg of 5mg/ml solution, inject slowly until patient calm, speech slightly slurred. Be prepared to support ventilation if needed.
e. Continue to monitor the patient. Physical restraint may still be necessary. Transport to the appropriate hospital.

SYNCOPE/NEAR SYNCOPE

Syncope/Near Syncope (fainting or feeling faint) should be regarded as a potentially serious complaint until proved otherwise. Syncope/Near Syncope implies a temporary interruption of normal circulation. Common causes are: vasovagal (usually in response to noxious or anxiety producing stimuli or pain), hypotension (absolute or orthostatic), anemia, hypoglycemia, arrhythmia (any type), overdose, or pregnancy. Less common causes include: pulmonary embolism, or subarachnoid or intracerebral hemorrhage.

1. Assess vitals. **Orthostatic pulse and blood pressure** after 1 minute standing if patient condition permits. Ask about fluid/blood loss, fluid intake. Consider **IV fluids**.
2. Ask about diabetes and medications. Check **glucose**, correct if low (<60). See protocol S.
3. Check O_2 saturation if available. Supplemental **O_2** as indicated. Ask about risk factors for blood clots: immobilization, recent surgery, and cancer.
4. Ask about history of arrhythmias or heart problems, medications. Check cardiac rhythm if able. Treat dangerous arrhythmias as appropriate.
5. Ask childbearing aged females about possibility of pregnancy.
6. **Contact Medical Control**. Due to the potentially serious causes, no patient with Syncope/Near Syncope should be released as "No Care Required".
7. Medical Control Options:
   a. Consider **IV fluid bolus** if hypotensive or orthostatic.
   b. Support EMS providers in advising patients of potential serious consequences (including death) if care is refused.
   c. Closest facility if deterioration anticipated.

END OF LIFE COMFORT MEASURES

When a patient with a terminal condition has not yet died and has a properly executed EMS/DNR Statute, Bracelet and/or POLST (Physician Order for Life-Sustaining Treatment) form (blue), contact medical control for orders for comfort measures. Relay the physician's orders as listed on the POLST form.

1. Assess patient vitals and condition
2. **Contact Medical Control**
3. Medical Control Options:
   a. Airway:
      i. Shortness of breath - Oxygen
      ii. Wheezing - administer Albuterol
      iii. Rales - administer Morphine and Nitroglycerine
      iv. Suction intubated patients
   b. Chest pain
      i. Oxygen
      ii. Nitroglycerine

iii. Mophine

c. Other pain
   i. Fentanyl
   ii. Mophine

d. Weakness, nausea, dehydration, volume depletion
   i. Intravenous fluids
   ii. Ondansetron
   iii. Dextrose
   iv. Oral Glucose

e, Transport to hospital or care facility if designated on the POLST form, or the patient may be left at the current location if transport is not desired.

Suspected Cyanide Intoxication/Smoke Inhalation

PPE AS INDICATED FOR RESCUE.
Remove patient from source of exposure. Patients exposed to cyanide gas/vapor or smoke, do not require decontamination and do not off-gas cyanide or CO. If cyanide solution or powder on patient, decontaminate. If cyanide ingestion, vomitus/gastric aspirate may off-gas. Have suction ready and consider at least Level C respiratory protection (with CBRN cartridge), gloves and splash protection. Ventilate transport unit well. Sequester vomitus in suction container or plastic bag.

Assessment:
Smoke Inhalation:
Airway / Breathing
Circulation - BP / perfusion
Neurological – AVPU or GCS, Confusion / disorientation / altered LOC, pupil size/reactivity
Soot in nose / mouth / oropharynx
Other suspected cyanide exposure/ingestion:
Airway / Breathing
Circulation - BP / perfusion
Neurological – AVPU or GCS, Confusion / disorientation / altered LOC, pupil size/reactivity
Oropharyngeal chemical burns/irritation
Other assessment:
Carbon Monoxide Co-oximetry (if available)
(Pulse oximetry SO2 will not be reliable in CO or CN poisoning.)

Treatment: Based on Clinical Severity
For all patients:
100% O2 by mask or BVM. Assist ventilation as needed. Consider intubation in comatose or arrested patients.
Initiate IV / NS @ TKO. Collect blood sample via purple top tube (if available).
Spinal immobilization as indicated if evidence of trauma/fall.
Treat burns and other presenting symptoms as indicated
Mild Exposure:
(Soot in nose / mouth / oropharynx, otherwise alert and stable): no other treatment, transport to appropriate facility
Moderate Exposure:
(Soot in nose / mouth / oropharynx, Confusion / disorientation / altered LOC, ± Hypotension):
Monitor ECG
Administer hydroxycobalamin (Cyanokit) 5g IVpgb over 15 min., on scene or en route
If hypotensive, consider fluid challenge
Contact Medical Control
Transport to appropriate facility
Severe Exposure:
(Soot in nose / mouth / oropharynx, coma / respiratory or cardiac arrest, hypotension)

Administer hydroxycobalamin (Cyanokit) 5g IVpgb over 15 min., on scene or en route

If in respiratory or cardiac arrest begin CPR, administer ACLS meds through separate IV

If hypotensive, consider fluid challenge

Contact Medical Control

Transport to appropriate facility

Transport:

Moderate to severe burns to burn center

Priority one trauma to trauma center

CO co-intoxication is common in smoke inhalation, consider transport to hyperbaric center.

Other unstable patients to closest facility.